Gabriel **Orlanski**

gabeorlanski.github.io | gabeorlanski | gabriel-orlanski | Gabriel Orlanski

Education

New York University *New York, New York*

MS in Computer Science *September 2021 - May 2023*

Rensselaer Polytechnic Institute *Troy, New York*

BS in Computer Science with a Minor in Quantitative Modeling in Economics *August 2017 - May 2021*

- **GPA:** 3.8 (Past Two Semesters), 3.2 (Overall)
- **Awards:** Dean's Honor List Fall 2019 & 2020, Spring 2021

Publications

Workshop Papers

Reading StackOverflow Encourages Cheating: Adding Question Text Improves Extractive Code Generation

Gabriel Orlanski, Alex Gittens

Proceedings of the 1st Workshop on Natural Language Processing for Programming (NLP4Prog 2021), 2021

Experience

NLP Research Intern *June 2021-Present*

Merlin Labs *New York, New York*

- Researched how to generate semantic instructions from Air Traffic Control transcripts with neural semantic parsing models.
- Built an auto-regressive sequence to sequence model that attained nearly 4x better performance compared to the baseline (16%-65%).
- Found improvements of over 14% with a novel dialogue state encoder that incorporated contextual information in prior conversation utterances.
- Designed a hierarchical representation for the semantic instructions that resulted in 70% better overall accuracy than with simpler techniques.
- Setup and implemented experiment tracking to track over 1,200 experiments and model version control for over 150 models.

Undergraduate Researcher *January 2021 - May 2021*

RPI - Department of Computer Science *Troy, New York*

- Advisor: Alex Gittens
- Researched how to improve code generation techniques for answering StackOverflow questions.
- Built a transformer based model that used question data to generate code, beating the previous state-of-the-art results by 10%.
- Designed experiments that demonstrated that denoising transformers perform 40% better than their translational counterparts.
- Reproduced results from multiple papers to serve as baselines.
- Presented paper at the NLP4Prog workshop at ACL-IJCNLP 2021.

Undergraduate Researcher *September 2019 - November 2020*

RPI - The Lally School of Management *Troy, New York*

- Advisor: Thomas Shohfi
- Researched the use of sentiment in financial reports and conference calls to detect algorithmic trading of an equity.
- Found that less than 10% of the occurring negative sentiment had significance with respect to the volume.
- Tripled the amount of usable data for over 25,000 financial filings by implementing NLP algorithms to extract salient information.
- Designed and built an end-to-end program that mines the SEC Filings for over 2,000 firms.
- Created a Python pipeline to accurately parse more than 10 million unstructured Analyst Earnings Reports in only 10% of the total run-time.

Undergraduate Researcher *May 2019 - September 2019*

RPI - Department of Computer Science *Troy, New York*

- Advisor: Heng Ji
- Researched Author Disambiguation for the Association of Computational Linguistics' new anthology.
- Designed a model that achieved over 97% accuracy classifying 1 million unique authors.
- Created a python program to parse over 12,000 academic papers and extract information.
- Engineered metadata features to improve the model's performance by over 50%.
- Reduced the program's runtime from days to hours by designing an algorithm to eliminate impossible author pairs.

Open Source Contributions

AllenNLP

- Improved documentation and implemented new datasets from papers to use for NLP research.
- Created a plugin called AllenNLP-Hydra that allows use of the Hydra framework with AllenNLP.

Adversarial Robustness Toolkit

- Implemented a new flickering video classification attack and created demonstrations to test its efficacy.

Extracurricular Activity

Chief Operating Officer *January 2019 - May 2020*

Roebling Investment Club *Troy, New York*

- Helped lead and run a club dedicated to the fundamentals of equity investment.

Skills

Programming	Python, Tensorflow, PyTorch, C, C++, SQL, Java, Excel VBA, Javascript, Git, MongoDB, Postgres, MySQL
Computer Science	Natural Language Processing, Machine Learning, Data Structures, Algorithms, Software Design, Data Engineering, ETL